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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,321	08/01/2003	Joseph C. Sanda JR.	MIC-103 (P50-0082)	5222
27215 7590 01/26/2007 MICHELIN NORTH AMERICA, INC. INTELLECTUAL PROPERTY DEPARTMENT MARC BLDG 31-2 P.O. BOX 2026 GREENVILLE, SC 29602			EXAMINER POULOS, SANDRA K	
			ART UNIT 1714	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/26/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/632,321

Applicant(s)

SANDA, JOSEPH C.

Examiner

Sandra K. Poulos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6, 11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11 and 13-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. All outstanding rejections and objections except for those described below are overcome by applicant's amendment filed 10/14/06.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed 10/14/06. In particular, the claims had previously been drawn to a puncture sealing composition, whereas now they have been amended such that the claims are drawn to a tubeless pneumatic tire comprising a puncture sealing composition covering an interior surface of the tire. Also, limitations regarding the molecular weights of the rubbers and amendments to the numerical ranges have been presented. Furthermore, newly presented method claims are included, wherein previously there were no claims drawn to methods. Thus the following action is properly made **FINAL**.

### *Claim Objections*

2. Claim 1 recites the limitation "the elastomers" in line 10 of the claim. There is insufficient antecedent basis for this limitation in the claim. The first rubber (A) has been amended such that now it is never referred to as an elastomer, resulting in a lack of antecedent basis.

Claim 6 recites "a puncture sealing composition as in claim 1", but claim 1 is now drawn to a tire.

Claim 17 lacks a period.

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***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6, 11, 13-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In particular, claims 1 and 15 recite new matter. Claim 1 now recites (i) "an amount of (A) being between 10% and 50%" and (ii) "an amount of (B) being correspondingly between 50% and 90%" and (iii) "ground rubber from used tires in an amount between greater than 0 and 5 percent". Claim 15 is a new claim and recites (iv) "wherein the ground rubber is not subjected to a surface activation treatment."

It is the examiner's position that these phrases fails to satisfy the written description requirement of 35 USC 112, first paragraph since there does not appear to be a written description requirement of the phrases (i)-(iv) in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. Applicant has not pointed to any portion of the specification, and examiner has not found any support for this phraseology in the specification as originally filed.

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Regarding (i), applicant has support for less than 50%, but not 50% as an endpoint. Likewise, in (ii) there is support for greater than 50%, but not 50%. Regarding (iii), there is no support for an amount of "greater than 0" percent. There is only support for "up to 5 percent", which includes 0 percent. Lastly, examiner finds no support for the limitations claimed in (iv).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3, 5-6, 11, 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 102844 in view of Farber et al (US 4,064,922) and Miyazato (US 3,860,359).

EP844 discloses a tubeless pneumatic tire with a puncture sealing laminate (pg 3, lines 1-4). The Butyl rubber in 100 parts, 30-100 parts fluid polyisobutylene, and 2-10 parts tackifiers are present in the laminate (pg 6, lines 9-19; pg 7 line 5 to pg 8 line 16). There is 0.5-2 parts of sulfur containing curatives (pg 8, lines 6-10). The butyl rubber has a Mooney viscosity of about 15 to 30 (pg 7, lines 19-22). EP844 is silent with respect to fiber, thus it is considered that the composition is fiber free. EP844 does not disclose ground rubber, however, since the current claims recite "up to 5 percent", which includes zero percent, EP844 meets this limitation.

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EP844 does not disclose (1) the currently claimed viscosities with respect to the blend and the Brookfield viscosity, that the butyl rubber is high molecular weight, the gel content, or a heat depolymerized natural rubber, (2) the sealant covers at least a portion of the interior surface of the tire, (3) between greater than 0 and 5 wt% ground rubber, and (4) preparing a solvent cement comprising the sealant material.

Regarding (1), Farber discloses a puncture sealing composition for an innerliner of a tubeless pneumatic tire comprising a fiber free blend of a low molecular weight liquid elastomer and a high molecular weight elastomer wherein the Brookfield viscosity of the liquid rubber is 20,000 to 2,000,000 cps and the Mooney viscosity of the blend is 30-55 and wherein the gel content is 15-60% (col 13-14). The liquid elastomer is heat depolymerized natural rubber, liquid polybutadiene, liquid polybutene, and liquid butyl rubber (col 3, lines 46-55). Among the high molecular weight polymers are butyl rubber (copolymer of isobutylene and minor amounts of isoprene) (col 3, lines 16-45; col 13, lines 51-59). Farber discloses curatives such as tetrahydrocarbyl titanate esters in addition to sulfur curing agents (col 4 line 48 to col 5 line 50).

It would have been obvious to one of ordinary skill in the art to use a high molecular weight butyl rubber and heat depolymerized liquid natural rubber in the EP844 sealing composition because the combination of polymers have efficient sealing ability when used for a puncture sealing composition (col 3, lines 55-62). The gel content when the depolymerized rubber is used would be between 15 to 60%, which gives desirable sealing ability and lack of flow properties and thus

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would be obvious to use a gel content between those ranges (col 5, lines 35-50)

and to use the titanate curative for optimal gel content (col 5, lines 7-50).

Furthermore, it would be obvious to have a viscosity between 30 and 55 because under 30 the composition flows out of the hole and over 55 and the composition is unusable for practical purposes (col 4, lines 33-40).

Regarding (2) and (4), Coddington discloses applying a rubber cement containing a mixture of high molecular weight rubber, low molecular weight rubber, and solvent to the inner surfaces of tires (abstract; col 3, lines 4-6). It would have been obvious to one of ordinary skill in the art to apply the EP844/Farber composition in the manner described by Coddington because it is effective in improving air barrier performance, heat resistance, and tire durability (col 2, lines 20-24).

Regarding (3), Miyazato discloses a tire lining agent used to seal punctures in tubeless tires (abstract, col 1, lines 13-15). The composition contains a rubber emulsion and finely divided particulate rubber particles (abstract). The rubber particles are from pulverized waste tires (abstract) and are present from an amount of 5 to 20 wt% (col 1, lines 51-52). The particles have a size of 50 micron to 1,200 micron, wherein the lower range is equivalent to less than 40 mesh (col 1, lines 48-49). Although surface active agents are preferred, they are not required (col 3, lines 15-33). It would have been obvious to one of ordinary skill in the art to incorporate 5 to 20 wt% particulate rubber into the EP844/Farber composition because doing so results in a tire that is substantially protected from puncture trouble (col 3, lines 45-50) and the rubber particles

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contribute to the sealing of the hole and also maintaining the elasticity of the tire (col 4, lines 24-30).

### ***Response to Arguments***

5. Applicant argues that the combination of references do not teach the limitations that are now currently recited; in response, new rejections are set forth above rendering the arguments moot.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra K. Poulos whose telephone number is (571) 272-6428. The examiner can normally be reached on M-F 8:00-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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